



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Jorge L. Gardea-Torresdey *et al.*

Serial No.: 10/732,927

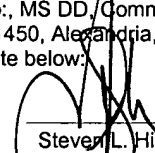
Filed: December 10, 2003

For: THE PREPARATION OF METAL
NANOPARTICLES IN PLANTS

Group Art Unit: Unknown

Examiner: Unknown

Atty. Dkt. No.: UTSE:103US

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| CERTIFICATE OF MAILING 37 C.F.R. 1.8 | |
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| March 18, 2004 |  |
| Date | Steven L. Highlander |

INFORMATION DISCLOSURE STATEMENT

MS DD
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56, it is respectfully requested that this Information Disclosure Statement be entered and the documents listed on attached Form PTO-1449 be considered by the Examiner and made of record. Copies of the listed documents required by 37 C.F.R. § 1.98(a)(2) are enclosed for the convenience of the Examiner.

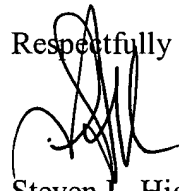
In accordance with 37 C.F.R. §§ 1.97(g), (h), this Information Disclosure Statement is not to be construed as a representation that a search has been made, and is not to be construed to be

an admission that the information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

The present Information Disclosure Statement is being filed prior to the receipt of a first Official Action reflecting an examination on the merits, and hence is believed to be timely filed in accordance with 37 C.F.R. § 1.97(b). No fees are believed to be due in connection with the filing of this Information Disclosure Statement, however, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be deemed necessary for any reason relating to these materials, the Commissioner is authorized to deduct the appropriate fees from Fulbright & Jaworski Deposit Account No.: 50-1212/UTSE:103US.

Applicants respectfully request that the listed documents be made of record in the present case.

Respectfully submitted,



Steven L. Highlander
Reg. No. 37,642
Attorney for Applicants

FULBRIGHT & JAWORSKI L.L.P.
600 Congress Avenue, Suite 2400
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(512) 474-5201

Date: March 18, 2004

Form PTO-1449 (modified)

Atty. Docket No.

Serial No.

UTSE:103US

10/732,927

List of Patents and Publications for Applicant's

Applicant

Jorge L Gardea-Torresdey *et al.*

INFORMATION DISCLOSURE STATEMENT

Filing Date:

December 10, 2003

Group:

Unknown

(Use several sheets if necessary)

U.S. Patent Documents

See Page 1

Foreign Patent Documents

See Page 1

Other Art

See Page 1

U.S. Patent Documents

| Exam. Init. | Ref. Des. | Document Number | Date | Name | Class | Sub Class | Filing Date of App. |
|-------------|-----------|-----------------|------|------|-------|-----------|---------------------|
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Foreign Patent Documents

| Exam. Init. | Ref. Des. | Document Number | Date | Country | Class | Sub Class | Translation Yes/No |
|-------------|-----------|-----------------|------|---------|-------|-----------|--------------------|
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Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

| Exam. Init. | Ref. Des. | Citation |
|-------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | C1 | Dickson, "Nanostructured magnetism in living systems," <i>J. Magn. Magn. Mater.</i> , 203:46-49, 1999. |
| | C2 | Gardea-Torresdey <i>et al.</i> , "Alfalfa sprouts: a natural source for the synthesis of silver nanoparticles," <i>Langmuir</i> , 19:1357-1361, 2003. |
| | C3 | Gardea-Torresdey <i>et al.</i> , "Effects of chemical competition for multi-metal binding by medicago sativa(alfalfa)," <i>J. Hazard. Mater.</i> , B69:41-51, 1999. |
| | C4 | Gardea-Torresdey <i>et al.</i> , "Formation and growth of Au nanoparticles inside live alfalfa plants," <i>Nano Lett.</i> , 2(4):397-401, 2002. |
| | C5 | Gardea-Torresdey <i>et al.</i> , "Gold nanoparticles obtained by bio-precipitation from gold(III) solutions," <i>J. Nanopart. Res.</i> , 1:397-404, 1999. |
| | C6 | Gardea-Torresdey <i>et al.</i> , "Reduction and accumulation of gold(III) by medicago sativa alfalfa biomass: x-ray absorption spectroscopy, pH, and temperature dependence," <i>Environ. Sci. Technol.</i> , 34:4392-4396, 2000. |
| | C7 | Greene <i>et al.</i> , "Interaction of gold(I) and gold(III) complexes with algal biomass," <i>EnViro. Sci. Technol.</i> , 20(6):627-632, 1986. |
| | C8 | Klaus <i>et al.</i> , "Silver-based crystalline nanoparticles, microbially fabricated," <i>Proc. Natl. Acad. Sci., USA</i> , 96(24):13611-13614, 1999. |

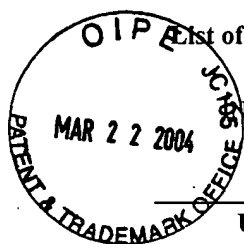
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INFORMATION DISCLOSURE STATEMENT — PTO-1449 (MODIFIED)



Form PTO-1449 (modified)

Atty. Docket No.

UTSE:103US

Serial No.

10/732,927

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Other Art

See Page 1

Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

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|----------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | C9 | Kuyucak and Volesky, "Accumulation of gold by algal biosorbent," <i>Biorecovery</i> , 1:189-204, 1989. |
| | C10 | McInnes <i>et al.</i> , "Biogeochemical exploration for gold in tropical rain forest regions of Papua New Guinea," <i>J. Geochem. Explor.</i> , 57:227-243, 1996. |
| | C11 | Mukherjee <i>et al.</i> , "Fungus-mediated synthesis of silver nanoparticles and their immobilization in the mycelial matrix: a novel biological approach to nanoparticle synthesis," <i>Nano Lett.</i> , 1(10):515-519, 2001. |
| | C12 | Nalwa, In: <i>Handbook of Nanostructural Materials and Nanotechnology</i> , Academic Press, NY, 1-5, 2000. |
| | C13 | Stephen and McCaughton, "Developments in terrestrial bacterial remediation of metals," <i>Curr. Opin. Biotechnol.</i> , 10:230-233, 1999. |

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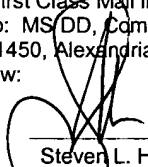
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March 18, 2004

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MS DD

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

RE: *U.S. Patent Application No. 10/732,927 entitled "THE PREPARATION OF METAL NANOPARTICLES IN PLANTS" – Jorge L. Gardea-Torresdey et al.*
Our reference: UTSE:103US

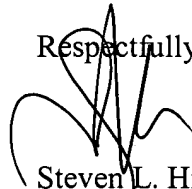
Sir:

Enclosed for filing in the above-referenced patent application is an Information Disclosure Statement, Form PTO-1449, and references C1-C13.

No fees are believed to be due in connection with the filing of this Information Disclosure Statement, however, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be deemed necessary for any reason relating to the enclosed materials, the Commissioner is authorized to deduct the appropriate fees from Fulbright & Jaworski Deposit Account No.: 50-1212/UTSE:103US.

Please date stamp and return the enclosed postcard evidencing receipt of these materials.

Respectfully submitted,



Steven L. Highlander
Reg. No. 37,642

SLH/kmv
Encl.: as noted